Application No. 09/593,118
Docket No. 99-836 RCE1

REMARKS

By this Amendment, Applicants amend claims 1, 28, 30, 61, and 63, and add new claim 71. Claims 1-71 are therefore pending in this application.

In the Office Action of June 29, 2005,[1] claims 1-15 and 61-70 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter; claims 1-4, 13, 16-19, 28, 31-34, 43, 46-49, 58, 62-64, and 66-69 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,064,731 to *Flockhart et al.* ("*Flockhart*") in view of the *Bank Marketing International* article entitled "Are your customers profitable?" ("*Bank Marketing*"); and claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59-61 and 70 were rejected under 35 U.S.C. § 103(a) as unpatentable over *Flockhart* in view of *Bank Marketing* and further in view of U.S. Patent No. 6,411,936 to *Sanders* ("*Sanders*"). Applicants address the rejections, and the new claim, below.

Rejection of claims 1-15 and 61-70 under 35 U.S.C. § 101

The Examiner alleged that claims 1-15 and 61-70 are non-statutory because "no computer hardware or software embodied on a tangible medium are in the body of the claim" (Office Action "OA" at 2-3). The Examiner averred that "[m]ere ideas in the abstract . . . that do not apply, involve, use, or advance the technological arts . . . are . . . non-statutory subject matter" (OA at 3).

Applicants traverse the Examiner's rejection of claims 1-15 and 61-70. Contrary to the Examiner's position, whether or not a process claim recites "computer hardware or software embodied on a tangible medium" is not dispositive of determining whether the claimed process

[1] The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

is statutory. In fact, the Federal Circuit indicated that arguing that process claims are not patentable subject matter because they lack physical limitations "reflects a misunderstanding of...[the] case law." *AT&T*, F.3d at 1359. The presumption that the law "requires all steps of a statutory 'process' to be physical acts applied to physical things" is an "erroneous idea." *In re Musgrave*, 167 USPQ 280, 289 (CCPA 1970). The court in *In re Musgrave* noted that "it was a misconstruction to assume that 'all processes, to be patentable, must operate physically upon substances.'" *Id.* at 289. Nevertheless, to expedite prosecution, Applicants amend independent claims 1, 61, and 63 to recite features that plainly place claims 1-15 and 61-70 within the technological arts, even under the Examiner's test set forth in the Office Action.

Moreover, claims 1-15 and 61-70 are not abstract. The inquiry of whether a claim is statutory focuses on "the essential characteristics of the subject matter, in particular, its practical utility." *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375. According to the Federal Circuit, if a claim includes recitations that produce "a concrete, tangible and useful result," the claim is not abstract and has practical utility. *See State Street*, 149 F.3d at 1373, *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358. If the claim is not abstract and has practical utility it is statutory under 35 U.S.C. § 101.

The Examiner's broad statements regarding abstract ideas and allegation that "no computer hardware or software embodied on a tangible medium are in the body of the claim" do not by themselves establish that the claims are directed to abstract ideas. Indeed, Applicants submit that claims 1-15 and 61-70 are drawn to a useful, concrete, and tangible result, and are therefore not abstract but, rather, statutory under 35 U.S.C. § 101.

Claims 1-15 and 61-70 are non-abstract and clearly within the technological arts. Claims 1-15 and 61-70 therefore define statutory subject matter, and the § 101 rejection should be withdrawn.

Section 103(a) rejection based on *Flockhart* and *Bank Marketing*

I. The rejection is ambiguous

The rejection of claims 1-4, 13, 16-19, 28, 31-34, 43, 46-49, 58, 62-64, and 66-69 is ambiguous and thus improper. In particular, the Examiner stated that claim 62 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Flockhart* and *Bank Marketing*" (OA at 4). The Examiner, however, rejected claim 61, upon which claim 62 depends, in a separate § 103(a) rejection based on *Flockhart*, *Bank Marketing*, and *Sanders* (OA at 12). Because the Examiner relied upon *Flockhart*, *Bank Marketing*, and *Sanders* in rejecting claim 61, and since claim 62 requires all of the features recited in claim 61, the § 103(a) rejection of claim 62 based only on *Flockhart* and *Bank Marketing* is ambiguous and should be withdrawn. To be fully responsive, Applicants address claim 62 below in the remarks presented below and also in those presented in response to the § 103(a) rejection based on *Flockhart*, *Bank Marketing*, and *Sanders*. Should the Examiner continue to dispute the patentability of the pending claims, however, Applicants request that the Examiner provide in the next Office Action clarification as to which references are being used to reject claim 62 and an appropriate statutory basis supporting the rejection. *See* M.P.E.P. § 707.07.

II. A case for prima facie obviousness has not been established

Applicants traverse the rejection of claims 1-4, 13, 16-19, 28, 31-34, 43, 46-49, 58, 62-64, and 66-69 because a case for *prima facie* obviousness has not been established. As M.P.E.P. § 2142 states, "[t]he examiner bears the initial burden of factually supporting any *prima facie*

conclusion of obviousness." To establish *prima facie* obviousness under 35 U.S.C. § 103(a), three requirements must be met. First, the applied references, taken alone or in combination, must teach or suggest each and every element recited in the claims. *See* M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the reference(s) or in the knowledge generally available to one of ordinary skill in the art, to combine or modify the reference(s) in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure." M.P.E.P. § 2143 (8th ed. 2001).

Claim 1 recites a combination of steps including:

> generating, by the processing system, a hazard function for an existing customer, to determine probability of churn, based on . . . [a] hazard function model and account data associated with the customer and corresponding to the attributes . . . and
>
> calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort.

The Examiner has not established that *Flockhart* and *Bank Marketing* teach or suggest at least the above-noted features.

Contrary to the Examiner's position, *Flockhart* does not teach or suggest "generating" feature of claim 1. *Flockhart* is directed to improving retention of call center customers. As the Examiner noted, *Flockhart* discloses an "at risk" function, which includes a series of operations for determining whether a call party is classified as an "at risk" customer and providing "special treatment" for those "at risk" customers (col. 3, lines 5-52; FIG. 2). According to *Flockhart*, "at risk" customers are those customers "who have received poor service or are otherwise dissatisfied" (col. 1, lines 20-22). This determination of an "at risk" customer is based on a

comparison of an identifier (e.g., an account number) against contents of a database to determine if the customer is designated as an "at risk" customer in the database (col. 3, lines 30-39).

The Examiner alleged that determining if a customer is an "at risk" customer, as disclosed by *Flockhart*, constitutes the "generating a hazard function for an existing customer" feature of claim 1 (OA at 4). According to the Examiner, *Flockhart*'s "'at risk' customer function represents the hazard function model and the customer account number represents the attribute" (OA at 4). The Examiner alleged that the "comparison of the customer account number to the 'at risk' database," as allegedly disclosed by *Flockhart*, "represents the determination of a hazard function since the hazard model is already invoked by the account number . . . and since the account number is also used for comparison to an 'at risk' database . . ." (OA at 20). According to the Examiner, "a match with the 'at risk' database represents the hazard function" (OA at 21). Applicants disagree with the Examiner's interpretation of *Flockhart* for at least the following reasons.

Determining if a party is an "at risk" customer, as disclosed by *Flockhart*, does not teach or suggest "generating a hazard function for an existing customer, to determine probability of churn, based on . . . [a] hazard function model and account data associated with the customer and corresponding to the attributes," as recited in claim 1. Even if *Flockhart*'s "at risk" classification were to suggest a propensity of churn, *Flockhart* does not teach or suggest <u>generating a hazard function</u> to determine probability of churn, let alone generating a hazard function based on a hazard function model and account data associated with the customer and corresponding to attributes relating to a plurality of current customer accounts, as claimed. Indeed, determining that a customer's identifier resides in a database (i.e., determining a "match") does not constitute "generating a hazard function."

Further, contrary to the Examiner's position, *Flockhart*'s "at risk" function does not constitute a "hazard function model," as recited in claim 1. *Flockhart*'s "at risk" function is merely a series of steps for determining, using a database, if a customer has received poor service and, if so, providing special treatment for the customer (see col. 3, lines 5-52; FIG. 2). Although *Flockhart* discloses using an identifier to determine if a customer is "at risk," the reference does not teach or suggest a hazard function model, as recited in claim 1. In addition, claim 1 recites generating the hazard function model "based on attributes relating to a plurality of current customer accounts." *Flockhart*'s "at risk" function, even if construed as some type of model, is not generated based on such attributes. *Flockhart*'s account numbers do not serve as a basis for generating the "at risk" function. Instead, the account numbers merely serve as identifiers that are compared against the database during as part of the "at risk" function.

In the Response to Arguments section of the Office Action, the Examiner alleged that "in col. 3, lines 5-11, the 'at risk' customer function is shown to be modeled in the flowchart of Fig. 2," which "represents the 'at risk' or hazard model" (OA at 20). Applicants disagree. Fig. 2 of *Flockhart* merely depicts "[o]perations performed by [the "at risk" customer] function 207," it does not represent a "hazard model" (col. 3, lines 5-9). As explained above, contrary to the Examiner's allegations, the "at risk" function does not constitute the claimed "hazard function model." That *Flockhart*'s function might be modeled in Fig. 2 does not provide further support for the Examiner's allegations.

Indeed, neither the cited disclosure nor any other disclosure in *Flockhart* teaches or suggests the claimed "generating." *Flockhart* further fails to teach or suggest "calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a

retention effort." In fact, the Examiner conceded that *Flockhart* fails to disclose the claimed "calculating" (OA at 5).

Bank Marketing fails to cure *Flockhart*'s deficiencies. Although *Bank Marketing* discloses predicting "the length of time a customer is likely to stay with [a bank]," it does not teach or suggest "generating a hazard function for an existing customer . . . based on . . . [a] hazard function model and account data associated with the customer and corresponding to the attributes," as recited in claim 1. Indeed, the Examiner appears to concede that *Bank Marketing* fails to disclose the claimed "generating" (see OA at 21-22).

Bank Marketing also fails to teach or suggest the "calculating" feature of claim 1. Although *Bank Marketing* describes "looking at estimated customer lifetime value (LTV)" to "decide whether to keep and develop a [customer]," it does not teach or suggest "calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort," as claimed (page 4, ¶¶ 3-6). The Examiner alleged that *Bank Marketing* discloses "changing to a focus based on retention in order to look at estimated lifetime value" and determining "the frequency of customer defection and likelihood of switching . . . prior to calculating the lifetime value (OA at 5). Even if this statement by the Examiner were valid, it does not support the allegation that the *Bank Marketing* discloses that claimed "calculating." Determining the frequency of defection and likelihood of switching prior to calculating LTV does not constitute "calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort," as claimed.

The Examiner also alleged that *Bank Marketing* discloses "the assignment of a rank order to its customer base, based on the Lifetime Value [and that the] rank order would represent and show a gain in lifetime value if one obtained the ranked value from lowest ranked, to highest

ranked" (OA at 21-22). Even if *Bank Marketing* were to disclose a rank order, such functionality does not teach or suggest the claimed "calculating." Ranking customers based on lifetime value does not constitute "calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort," as recited in claim 1. To the extent the rank order could show any "gain" at all, it could conceivably indicate upward movement of a customer's rank as a result of an increase in lifetime value. However, indicating that a customer's lifetime value has increased does not constitute "calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort," as claimed.

For at least the foregoing reasons, neither *Flockhart* nor *Bank Marketing*, nor any combination thereof, teaches or suggests each and every feature of claim 1. As such, *prima facie* obviousness has not been established.

Moreover, *prima facie* obviousness has not been established at least because the requisite motivation to combine *Flockhart* and *Bank Marketing* is lacking. The Federal Circuit has opined that "virtually all [inventions] are combinations of old elements." *See e.g., In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998) (citations omitted). The Federal Circuit has explained that an examiner may find every element of a claimed invention in the prior art but mere identification is not sufficient to negate patentability. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). The court explained that "the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *Id.*

Also, determinations of obviousness must be supported by evidence on the record. *See In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001), 59 USPQ2d 1693, 1696-98 (finding that the factual determinations central to the issue of patentability, including conclusions of obviousness by the Board, must be supported by "substantial evidence"). The desire to combine or modify references must be proved with "substantial evidence" that is a result of a "thorough and searching" factual inquiry. *See In re Lee*, 277 F.3d 1338, 1343-1344 (Fed. Cir. 2002), 61 USPQ2d 1430, 1433 (quoting *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52). Additionally, the Federal Circuit has clearly stated that the evidence of a motivation or suggestion to modify a reference must be "clear and particular." *In re Dembicziak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

In this case, the Office Action does not show that a skilled artisan considering *Flockhart* and *Bank Marketing*, and not having the benefit of Applicants' disclosure, would have been motivated to combine the references in a manner resulting in Applicants' claimed combination. The Examiner merely provides descriptions of how *Flockhart* and *Bank Marketing* allegedly teach certain features without a proper motive for combining those references. For example, the Examiner alleged that a skilled artisan would have combined the references "to calculate a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort with the motivation of determining the customers likelihood of switching during the time the customer is committed to the business" (OA at 5). This allegation in the Office Action is not properly supported and does not show that a skilled artisan would have combined the references as alleged. For example, the Examiner does not show the alleged motivation to be present in the applied references or in the knowledge available to a skilled artisan. Further, that combining the references might allow for "determining the customers likelihood of switching

during the time the customer is committed to the business" does not show that a skilled artisan would have combined the references as alleged.

The Examiner further alleged that combining *Flockhart* and *Bank Marketing* is "valid" because *Flockhart* "specifically discloses the determination of "at risk" customers, and *Bank Marketing* specifically discloses the determination of Lifetime Value . . . [and] the assignment of a rank order to its customer base . . . in order to identify customers to who it is worth allocating resources" (OA at 22). According to the Examiner, "ranking the customer base according to Lifetime Value is an indirect way of determining 'at risk customers' (OA at 22). Additionally, the Examiner alleged that a skilled artisan would have combined the cited references "since both references disclose the analysis of customer activity through customer accounts to determine the effect that customers have on business" (OA at 22). These additional allegations in the Office Action do not suffice to support a *prima facie* conclusion of obviousness. The Examiner again merely provides general descriptions of how *Flockhart* and *Bank Marketing* allegedly teach certain subject matter without providing "clear and particular" reasons why a skilled artisan "would select the elements from the cited prior art references for combination in the manner claimed." *See In re Dembicziak*, 175 F.3d at 999, 50 USPQ2d at 1617; *In re Rouffet*, 149 F.3d at 1357, 47 USPQ2d at 1457.

Applicants call attention to M.P.E.P. § 2143.01, which makes clear that: "[t]he mere fact that references <u>can</u> be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination" (citations omitted). The Office Action does not show that the cited art "suggests the desirability" of the alleged combination.

Applicants submit that the conclusions in the Office Action were not reached based on facts gleaned from the cited references and that, instead, teachings of the present application were improperly used in hindsight to reconstruct the prior art. Applicants submit that only in hindsight could a skilled artisan having the cited references before him combine their teachings in the manner claimed with a reasonable expectation of success. Applicants submit that the Examiner is impermissibly using teachings of the present application in hindsight to piece together isolated disclosures of the cited references. Examiners, however, may not pick and choose among isolated disclosures in references to defeat patentability of a claimed invention. Such picking and choosing amounts to improper hindsight reconstruction, and is prohibited. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

For at least these additional reasons, *prima facie* obviousness has not been established with respect to claim 1. Accordingly, the § 103(a) rejection of that claim should be withdrawn.

Independent claim 16 recites a combination including:

> a generating module for generating a hazard function for an existing customer, to determine probability of churn, based on the hazard function model and account data associated with the customer and corresponding to the attributes . . . [and]
>
> a calculating module for calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort.

Although claim 16 is of different scope than claim 1, the § 103(a) rejection of claim 16 should be withdrawn for at least reasons similar to those presented above in connection with claim 1.

Each of independent claims 31 and 46 recites, in part:

> generating a hazard function for an existing customer, to determine probability of churn, based on the hazard function model and

> account data associated with the customer and corresponding to the attributes . . . and
>
> calculating a gain in lifetime value for the customer based on a change in the hazard function.

Although claims 31 and 46 are of different scope than claim 1, the rejection of claims 31 and 46 under 35 U.S.C. § 103(a) should be withdrawn for at least the reasons presented above in connection with claim 1.

Independent claim 63 recites a combination including:

> identifying a temporal-based retention effort based on the hazard function for each of the plurality of customers . . . and
>
> calculating, for each of the plurality of customers, an expected gain in value from the identified retention effort.

The Examiner alleged that *Flockhart* discloses the claimed "identifying" because it discloses "special treatment" for "at risk" customers (OA at 8-9). The Examiner also notes *Flockhart*'s disclosure of "maintaining customer satisfaction with customer service focus on agent training . . . in an attempt to maintain high standards of service" (col. 1, lines 24-28; OA at 9). Applicants disagree with the Examiner's interpretation of *Flockhart*. Although *Flockhart* mentions providing special treatment, such as giving a call high priority, the reference does not teach or suggest "identifying a temporal-based retention effort based on the hazard function for each of the plurality of customers," as claimed. Even if, for the sake of argument, "special treatment" were construed as a "temporal-based retention effort," *Flockhart* does not disclose that the special treatment is identified based on a hazard function, as claimed. As explained above in connection with claim 1, determining if a party is an "at risk" customer, as disclosed by *Flockhart*, does not teach or suggest generating a "hazard function," as claimed. Further, *Flockhart* merely mentions that special treatment can be "any desired treatment" (col. 3, lines 40-41). Additionally, *Flockhart*'s disclosure regarding maintaining customer satisfaction and

high standards of service do not teach or suggest "identifying a temporal-based retention effort based on the hazard function for each of the plurality of customers," as claimed. For at least these reasons, *Flockhart* fails to teach or suggest the claimed "identifying."

As affirmed by the Examiner, *Flockhart* further fails to disclose "calculating, for each of the plurality of customers, an expected gain in value from the identified retention effort," as recited in claim 63 (OA at 9).

Bank Marketing does not cure *Flockhart*'s deficiencies. Although *Bank Marketing* discloses offering lower prices, bundling services, and dropping charges, the reference does not teach or suggest "identifying a temporal-based retention effort based on the hazard function for each of the plurality of customers," as recited in claim 63. Indeed, the Examiner appears to concede to this point (OA at 23-24). *Bank Marketing* also fails to teach or suggest "calculating, for each of the plurality of customers, an expected gain in value from the identified retention effort," as claimed. As explained, *Bank Marketing* merely describes "looking at estimated customer lifetime value (LTV)" to "decide whether to keep and develop a [customer]." Further, determining the frequency of defection and likelihood of switching prior to calculating LTV does not constitute "calculating, for each of the plurality of customers, an expected gain in value from the identified retention effort," as claimed.

For at least the foregoing reasons, the applied references, taken alone or in combination, fail to teach or suggest each and every element recited in claim 63. In addition, the requisite motivation for combining *Flockhart* nor *Bank Marketing* is lacking, for at least the reasons explained above in connection with claim 1. Accordingly, *prima facie* obviousness has not been established and the rejection of claim 63 under 35 U.S.C. § 103(a) should be withdrawn.

In view of the foregoing, Applicants request withdrawal of the rejection of independent claims 1, 16, 31, 46, 61, and 63 under 35 U.S.C. § 103(a) and the timely allowance of these claims. Applicants also request withdrawal of the § 103(a) rejection and the timely allowance of claims 2-4, 13, 17-19, 28, 32-34, 43, 47-49, 58, 64, and 66-69, at least because each of these claims depends upon one of base claims 1, 16, 31, 46, and 63. *See, In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Claim 62 depends upon claim 61. As affirmed by the Examiner, *Flockhart* and *Bank Marketing*, taken alone or in combination, fail to teach or suggest each and every feature of claim 61 (OA at 17). These references therefore cannot support a § 103(a) rejection of claim 62, which requires all of the features of claim 61. Applicants thus request withdrawal of the § 103(a) rejection of claim 62.

Section 103(a) rejection based on *Flockhart*, *Bank Marketing* and *Sanders*

Applicants traverse the rejection of claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59-61 and 70 because *prima facie* obviousness has not been established with respect to these claims.

Claims 5-12, 14 and 15 depend upon base claim 1; claims 20-27, 29 and 30 depend upon base claim 16; claims 35-42, 44, and 45 depend upon base claim 31; and claims 50-57, 59 and 60 depend upon base claim 46. As explained above, *prima facie* obviousness has not been established with respect to claims 1, 16, 31 and 46 based on *Flockhart* and *Bank Marketing*. A case for *prima facie* obviousness has therefore not been established with respect to dependent claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59 and 60 based on those references. In particular, *Flockhart* and *Bank Marketing*, taken alone or in combination, fail to teach or suggest

each and every element recited in claims 1, 16, 31 and 46, and required by dependent claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59 and 60.

Sanders does not cure the deficiencies of *Flockhart* and *Bank Marketing*. *Sanders* is directed to "enterprise value enhancement" within the context of knowledge management (Abstract; col. 1, lines 5-10; col. 2, lines 57-60). *Sanders* fails to teach or suggest at least "generating . . . a hazard function for an existing customer, to determine probability of churn, based on . . . [a] hazard function model and account data associated with the customer and corresponding to the attributes," as recited in claims 1, 16, 31, and 46. Indeed, the Examiner appears to concede to this point (OA at 24-25).

Moreover, although *Sanders* describes financial analyses and value enhancement solutions, *Sanders* does not teach or suggest at least "calculating a gain in lifetime value for the customer based on a change in the hazard function resulting from a retention effort," as recited in claim 1. Likewise, *Sanders* fails to teach or suggest at least the "calculating module" recited in claim 16 and the "calculating" subject matter recited in claims 31 and 46. The Examiner appears to concede to this point (OA at 24-25).

Accordingly, neither *Flockhart*, *Bank Marketing*, *Sanders*, nor any combination thereof, teaches or suggests all of the features recited in claims 1, 16, 31 and 46 and required by dependent claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59 and 60. For at least this reason, *prima facie* obviousness has not been established with respect to claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59 and 60 and the § 103(a) rejection of those claims should be withdrawn.

Also, for at least the reasons presented above in connection with claim 1, the requisite motivation to combine *Flockhart*, *Bank Marketing* and *Sanders* is lacking. The Examiner's

additional allegations with respect to combining *Sanders* (e.g., pages 13-15, 25) are not properly supported and do not establish that a skilled artisan would have combined the cited references in a manner resulting in Applicants' claimed combination. For at least these additional reasons, *prima facie* obviousness has not been established and the § 103(a) rejection of claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59 and 60 should be withdrawn.

Independent claim 61 recites, *inter alia*, "calculating, for the customer, a gain in lifetime value based on a change in the hazard function resulting from a retention effort." For at least reasons similar to those presented above in connection with claim 1, neither *Flockhart* nor *Bank Marketing* teaches or suggests the "calculating" recited in claim 61. Furthermore, as affirmed by the Examiner, neither *Flockhart* nor *Bank Marketing* teaches or suggests a "multilayer feed-forward neural network," as claimed (OA at 17).

Sanders does not cure the deficiencies of *Flockhart* and *Bank Marketing*. For example, as explained above, *Sanders* does not teach "calculating . . . a gain in lifetime value based on a change in the hazard function resulting from a retention effort," as claimed. The applied references, taken alone or in combination, therefore fail to teach or suggest each and every element recited in claim 61. For at least this reason, *prima facie* obviousness has not been established and the § 103(a) rejection of claim 61 should be withdrawn.

The requisite motivation to combine the applied references is also lacking with respect to claim 61. The requisite motivation is lacking for at least the reasons presented above in connection with claim 1. Further, the Examiner's allegations set forth with respect to claim 61 do not show that a skilled artisan considering *Flockhart*, *Bank Marketing* and *Sanders*, and not having the benefit of Applicants' disclosure, would have been motivated to combine the references in a manner resulting in Applicants' claimed combination. The Examiner alleged that

a skilled artisan would have combined *Sanders* with the alleged *Flockhart-Bank Marketing* combination "to incorporate a multiplayer feed-forward neural network with the motivation of utilizing this type of intelligence to determine the possibility of churn" (OA at 17). The Examiner further alleged that the combination of *Flockhart*, *Bank Marketing*, and *Sanders* "is valid since all three reference[s] disclose the analysis of customer activity through customer accounts to determine the effect that customers have on a business (OA at 25). These conclusory allegations in the Office Action are not properly supported and does not establish the required motivation to combine the references. The Examiner fails to provide any explanation as to why a skilled artisan would have been motivated to utilize a multiplayer feed-forward neural network to determine the possibility of churn, other than to attempt meet the terms of claim 61. The Examiner does not show that the references suggest the desirability of "utilizing [a multiplayer feed-forward neural network] to determine the possibility of churn," as alleged. The mere fact that all three references might disclose the "analysis of customer activity through customer accounts to determine the effect that customers have on a business," does not establish that a skilled artisan would have combined the references as alleged. The Examiner also fails to show that the alleged motivation is present in the knowledge generally available to a skilled artisan. The Examiner merely provided descriptions of how *Flockhart*, *Bank Marketing*, and *Sanders* allegedly teach certain subject matter without providing "clear and particular" reasons why a skilled artisan "would select the elements from the cited prior art references for combination in the manner claimed." *See In re Dembicziak*, 175 F.3d at 999, 50 USPQ2d at 1617; *In re Rouffet*, 149 F.3d at 1357, 47 USPQ2d at 1457. Applicants submit that the Examiner again is impermissibly using teachings of the present application in hindsight to piece together isolated

disclosures of the cited references, which constitutes improper hindsight reconstruction. *See In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

For at least the foregoing additional reasons, *prima facie* obviousness has not been established and the § 103(a) rejection of claim 61 should be withdrawn. Claim 70 depends upon claim 61. The § 103(a) rejection of claim 70 should be withdrawn as well, for at least reasons similar to those presented above in connection with claim 61. Applicants request withdrawal of the § 103(a) rejection of claims 5-12, 14, 15, 20-27, 29, 30, 35-42, 44, 45, 50-57, 59-61 and 70 and the timely allowance of these claims.

New claim 71

New claim 71 depends indirectly upon claim 61. For at least reasons similar to those presented above in connection with claim 61, *Flockhart*, *Bank Marketing* and *Sanders* do not anticipate or render obvious claim 71. Further, the cited art does not teach or suggest the additional features recited in claim 71. Applicants therefore request the timely allowance of new claim 71.

Conclusion

The claimed invention is neither anticipated nor rendered obvious in view of the references cited against this application. Applicants request the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Application No. 09/593,118
Docket No. 99-836 RCE1

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 07-2347.

Respectfully submitted,

Dated: October 31, 2005

By: Joel Wall
Joel Wall
Reg. No. 25,648